

## INDEX TO VOLUME 90

### A

- Abies concolor*, 561-574  
     *magnifica*, 561-574  
 Accepters, 349-358  
*Accipiter nisus*, 210, 583, 658  
 Acorns, 705-708  
*Acridotheres tristis*, 504  
*Acrocephalus arundinaceus*, 426  
     *palustris*, 426, 594  
     *schoenobaenus*, 426  
     *scirpaceus*, 426  
*Actitis macularia*, 942  
 Activity metabolism, 662-668  
*Aechmophorus clarkii*, 632  
     *occidentalis*, 632-636  
*Aedes taeniorhynchus*, 727-729  
*Aegolius funereus*, 658  
 Afrotropics, 583-587  
 Afton, Alan D., see Ankney, C. Davison  
 Age, 201-213, 379-388, 731-734  
*Agelaius icterocephalus*, 299  
     *phoeniceus*, 45, 125, 193-200, 211, 325, 349-358,  
         426, 458, 546, 604, 935, 956  
     *tricolor*, 426  
     *xanthomus*, 289  
 Aggressive behavior, 271-274  
 Agonistic interaction, 681-688  
*Aix sponsa*, 459-472, 839, 920-930  
*Akepa*, see *Loxops coccineus*  
*Akiapolaau*, see *Hemignathus munroii*  
 Alarm calls, 632-636  
 Alaska, 613-620, 712-714  
*Alauda arvensis*, 509  
 Albatross, Black-browed, see *Diomedea melanophrys*  
     Gray-headed, see *Diomedea chrysostoma*  
     Laysan, see *Diomedea immutabilis*  
     Light-mantled Sooty, see *Phoebastria palpebrata*  
     Sooty, see *Phoebastria fusca*  
     Wandering, see *Diomedea exulans*  
     Waved, see *Diomedea irrorata*  
*Alca torda*, 816-823, 966  
 Alcidae, 718-721  
 Alcids, 965-966  
 Alcoholic specimens, 500-503  
*Alle alle*, 712-714  
 Allospecific song, 486-489  
 Allozymes, 428-445  
*Amakihi*, Common, see *Hemignathus virens*  
 Amazonia, 239-241, 497-499  
*Ammodramus humeralis*, 42  
*Anas clypeata*, 459-472, 490  
     *crecca*, 552  
     *discors*, 470, 710  
     *platyrhynchos*, 125, 263-266, 459-472, 490, 546,  
         669-680, 839  
     *rubripes*, 490  
     *strepera*, 467  
 Anderson, Bertin W., see Hunter, William C.  
 Anderson, David J., and Fortner, Sharon, Waved Al-  
     batross egg neglect and associated mosquito ec-  
     toparasitism, 727-729  
 Andes, 251-253  
 Androgen, 555-560  
 Anhingidae, 885-905  
*Ani*, Groove-billed, see *Crotophaga sulcirostris*  
     Smooth-billed, see *Crotophaga ani*  
 Animal model, 697-704  
 Ankney, C. D., see Forbes, M.R.L.  
 Ankney, C. Davison, and Afton, Alan D., Bioenergetics  
     of breeding Northern Shovelers: Diet, nutrient  
     reserves, clutch size, and incubation, 459-472  
 Annual cycle, 141-156  
     variation, 561-574  
 Anorexia, 257-258  
*Anous minutus*, 260  
     *stolidus*, 260, 844  
 Antarctic krill, 157-167  
 Antarctica, 484-486  
 Antbird, Wing-banded, see *Myrmornis torquata*  
*Anthus spinoletta*, 150  
 Antpitta, Thrush-like, see *Myrmothera campanisona*  
 Apapane, see *Himatione sanguinea*  
*Aphelocoma coerulescens*, 4, 141, 319, 379-388, 402,  
     503-505, 624, 705-708  
     *ultramarina*, 319, 504  
*Aptenodytes patagonica*, 257  
     *patagonicus*, 157  
*Apteryx australis*, 484  
*Apus apus*, 710  
*Aquila verreauxi*, 583-587  
*Ara ararauna*, 240  
 Arad, Zeev, and Bernstein, Marvin H., Temperature  
     regulation in Turkey Vultures, 913-919  
 Arango, Gonzalo, see Graves, Gary R.  
 Arcese, Peter, Stoddard, Philip Kraft, and Hiebert, Sara  
     M., The form and function of song in female  
     Song Sparrows, 44-50  
*Ardea herodias*, 458, 852  
*Ardeola ibis*, 458  
 Arizona, 61-71  
 Asa, Cheryl S., see Cannell, Peter F.  
 Assortative mating, 201-213  
*Athene cunicularia*, 512  
 Attendance behavior, 816-823  
 Atwood, Jonathan L., and Massey, Barbara W., Site  
     fidelity of Least Terns in California, 389-394  
 Auklet, Crested, see *Aethia cristatella*  
     Least, see *Aethia pusilla*  
     Parakeet, see *Cyclorhynchus psittacula*  
     Rhinceros, see *Cerorhinca monocerata*  
*Aulacorhynchus prasinus*, 102  
*Auriparus flaviceps*, 119  
 Avian ecology, 324-331  
 Avifauna, 931-933  
     decline, 478-482  
*Aythya affinis*, 168-172  
     *americana*, 926  
     *collaris*, 469, 839  
     *ferina*, 168  
     *fuligula*, 168  
     *valisineria*, 168-172

## INDEX TO VOLUME 90

### A

- Abies concolor*, 561-574  
     *magnifica*, 561-574  
 Accepters, 349-358  
*Accipiter nisus*, 210, 583, 658  
 Acorns, 705-708  
*Acridotheres tristis*, 504  
*Acrocephalus arundinaceus*, 426  
     *palustris*, 426, 594  
     *schoenobaenus*, 426  
     *scirpaceus*, 426  
*Actitis macularia*, 942  
 Activity metabolism, 662-668  
*Aechmophorus clarkii*, 632  
     *occidentalis*, 632-636  
*Aedes taeniorhynchus*, 727-729  
*Aegolius funereus*, 658  
 Afrotropics, 583-587  
 Afton, Alan D., see Ankney, C. Davison  
 Age, 201-213, 379-388, 731-734  
*Agelaius icterocephalus*, 299  
     *phoeniceus*, 45, 125, 193-200, 211, 325, 349-358,  
         426, 458, 546, 604, 935, 956  
     *tricolor*, 426  
     *xanthomus*, 289  
 Aggressive behavior, 271-274  
 Agonistic interaction, 681-688  
*Aix sponsa*, 459-472, 839, 920-930  
*Akepa*, see *Loxops coccineus*  
*Akiapolaau*, see *Hemignathus munroii*  
 Alarm calls, 632-636  
 Alaska, 613-620, 712-714  
*Alauda arvensis*, 509  
 Albatross, Black-browed, see *Diomedea melanophrys*  
     Gray-headed, see *Diomedea chrysostoma*  
     Laysan, see *Diomedea immutabilis*  
     Light-mantled Sooty, see *Phoebastria palpebrata*  
     Sooty, see *Phoebastria fusca*  
     Wandering, see *Diomedea exulans*  
     Waved, see *Diomedea irrorata*  
*Alca torda*, 816-823, 966  
 Alcidae, 718-721  
 Alcids, 965-966  
 Alcoholic specimens, 500-503  
*Alle alle*, 712-714  
 Allospecific song, 486-489  
 Allozymes, 428-445  
*Amakihi*, Common, see *Hemignathus virens*  
 Amazonia, 239-241, 497-499  
*Ammodramus humeralis*, 42  
*Anas clypeata*, 459-472, 490  
     *crecca*, 552  
     *discors*, 470, 710  
     *platyrhynchos*, 125, 263-266, 459-472, 490, 546,  
         669-680, 839  
     *rubripes*, 490  
     *strepera*, 467  
 Anderson, Bertin W., see Hunter, William C.  
 Anderson, David J., and Fortner, Sharon, Waved Al-  
 batross egg neglect and associated mosquito ec-  
 toparasitism, 727-729  
 Andes, 251-253  
 Androgen, 555-560  
 Anhingidae, 885-905  
*Ani*, Groove-billed, see *Crotophaga sulcirostris*  
     Smooth-billed, see *Crotophaga ani*  
 Animal model, 697-704  
 Ankney, C. D., see Forbes, M.R.L.  
 Ankney, C. Davison, and Afton, Alan D., Bioenergetics  
     of breeding Northern Shovelers: Diet, nutrient  
     reserves, clutch size, and incubation, 459-472  
 Annual cycle, 141-156  
     variation, 561-574  
 Anorexia, 257-258  
*Anous minutus*, 260  
     *stolidus*, 260, 844  
 Antarctic krill, 157-167  
 Antarctica, 484-486  
 Antbird, Wing-banded, see *Myrmornis torquata*  
*Anthus spinoletta*, 150  
 Antpitta, Thrush-like, see *Myrmothera campanisona*  
 Apapane, see *Himatione sanguinea*  
*Aphelocoma coerulescens*, 4, 141, 319, 379-388, 402,  
     503-505, 624, 705-708  
     *ultramarina*, 319, 504  
*Aptenodytes patagonica*, 257  
     *patagonicus*, 157  
*Apteryx australis*, 484  
*Apus apus*, 710  
*Aquila verreauxi*, 583-587  
*Ara ararauna*, 240  
 Arad, Zeev, and Bernstein, Marvin H., Temperature  
     regulation in Turkey Vultures, 913-919  
 Arango, Gonzalo, see Graves, Gary R.  
 Arcese, Peter, Stoddard, Philip Kraft, and Hiebert, Sara  
     M., The form and function of song in female  
     Song Sparrows, 44-50  
*Ardea herodias*, 458, 852  
*Ardeola ibis*, 458  
 Arizona, 61-71  
 Asa, Cheryl S., see Cannell, Peter F.  
 Assortative mating, 201-213  
*Athene cunicularia*, 512  
 Attendance behavior, 816-823  
 Atwood, Jonathan L., and Massey, Barbara W., Site  
     fidelity of Least Terns in California, 389-394  
 Auklet, Crested, see *Aethia cristatella*  
     Least, see *Aethia pusilla*  
     Parakeet, see *Cyclorhynchus psittacula*  
     Rhinceros, see *Cerorhinca monocerata*  
*Aulacorhynchus prasinus*, 102  
*Auriparus flaviceps*, 119  
 Avian ecology, 324-331  
 Avifauna, 931-933  
     decline, 478-482  
*Aythya affinis*, 168-172  
     *americana*, 926  
     *collaris*, 469, 839  
     *ferina*, 168  
     *fuligula*, 168  
     *valisineria*, 168-172

# B

- Bakst, Murray R., see Cannell, Peter F.  
Balda, Russell P., see Brawn, Jeffrey D.  
Balda, Russell P., see Hejl, Sallie J.  
Balda, Russell P., see Marzluff, John M.  
Bananaquit, see *Coereba flaveola*  
Banding recoveries, 389-394  
Banks, Richard C., Geographic variation in the Yellow-billed Cuckoo, 473-477  
Baptista, Luis F., Imitation of White-crowned Sparrow songs by a Song Sparrow, 486-489  
Barclay, Robert M. R., see Hébert, Percy N.  
Bare-Eye, Black-spotted, see *Phlegopsis nigromaculata*  
Bartle, John Alexander, see Weimerskirch, Henri  
*Basileuterus culicivorus*, 428  
Bay of Fundy, 824-835  
Bech, Claus, see Haftorn, Svein  
Bédard, Jean, see Giroux, Jean-Francois  
Bednarz, James C., A comparative study of the breeding ecology of Harris' and Swainson's hawks in southeastern New Mexico, 311-323  
Behavior, 945-947  
Behavior during molt, 141-156  
Belles-Isles, Jean-Claude, see Picman, Jaroslav  
Belthoff, James R., see Ritchison, Gary  
Bendell, James F., see Naylor, Brian J.  
Bendell, James F., see Szuba, Kandyd J.  
Bering Sea, 723-726  
Bernstein, Marvin H., see Arad, Zeev  
Beta-hydroxybutyrate, 257-258  
Bierregaard, Richard O., see Klein, Bert C.  
Bioacoustics, 745-760  
Bird abundance, 339-348  
    assemblage, 561-574  
    community, 561-574  
Bird, D. M., see Rehder, N. B.  
Bird of paradise, 538-545  
Birkhead, T. R., and Gaston, A. J., The composition of Ancient Murrelet eggs, 965-966  
Bittern, American, see *Botaurus lentiginosus*  
    Least, see *Ixobrychus exilis*  
*Biziura lobata*, 170  
Blackbird, Eurasian, see *Turdus merula*  
    Melodious, see *Dives dives*  
    Red-winged, see *Agelaius phoeniceus*  
    Tri-colored, see *Agelaius tricolor*  
    Yellow-headed, see *Xanthocephalus xanthocephalus*  
    Yellow-hooded, see *Agelaius icterocephalus*  
    Yellow-shouldered, see *Agelaius xanthomus*  
Black-Grouse, Eurasian, see *Lyrurus tetrix*  
Blood sampling, 939-941, 942-945  
Bluebird, Eastern, see *Sialia sialis*  
    Mountain, see *Sialia currucoides*  
    Western, see *Sialia mexicana*  
Boardman, Constance, see Massey, Barbara W.  
Bobolink, see *Dolichonyx oryzivorus*  
Bobwhite, Northern, see *Colinus virginianus*  
Body composition, 669-680  
    size, 201-213  
    weight, 555-560  
*Boiga irregularis*, 478-482  
*Boissoneaua flavescens*, 102  
*Bolborhynchus ferrugineifrons*, 252  
*Bombycilla cedrorum*, 356, 505-507, 590

- Bonasa umbellus*, 17, 529, 717, 836-842  
Booby, Brown, see *Sula leucogaster*  
    Masked, see *Sula dactylatra*  
    Red-footed, see *Sula sula*  
Booth, D. T., see Rahn, H.  
Botzler, Richard G., see Miller, Sherri L.  
Bout length, 592-606  
Brant, see *Branta bernicla*  
*Branta bernicla*, 88, 263  
    *canadensis*, 83-89, 210, 228-232, 263, 558, 733  
    *minima*, 88  
Braun, C. E., see Remington, T. E.  
Brawn, Jeffrey D., and Balda, Russell P., Population biology of cavity nesters in northern Arizona: Do nest sites limit breeding densities?, 61-71  
Brazil, 40-43  
Breeding, 555-560  
    biology, 83-89, 311-323, 515-517, 689-696  
    colony, 484-486  
    densities, 61-71  
    molt overlap, 141-156  
    success, 583-587, 727-729  
Brood parasitism, 40-43, 253-256, 289-303, 349-358, 920-930  
Brown, Charles R., see Brown, Mary Bomberger  
Brown, Mary Bomberger, and Brown, Charles R., Access to winter food resources by bright- versus dull-colored House Finches, 729-731  
Brown adipose tissue, 529-537  
*Bubo virginianus*, 651, 737  
*Bubulcus ibis*, 506, 547  
*Bucephala albeola*, 926  
    *clangula*, 926  
Bufflehead, see *Bucephala albeola*  
Buitron, Deborah, Female and male specialization in parental care and its consequences in Black-billed Magpies, 29-39  
Bullfinch, Eurasian, see *Pyrrhula pyrrhula*  
    Lesser Antillean, see *Loxigilla noctis*  
    Puerto Rican, see *Loxigilla portoricensis*  
Bunting, Indigo, see *Passerina cyanea*  
    Lark, see *Calamospiza melanocorys*  
    Painted, see *Passerina ciris*  
Burger, Joanna, Social attraction in nesting Least Terns: Effects of numbers, spacing, and pair bonds, 575-582  
Burger, Joanna, and Gochfeld, Michael, Nest-site selection by Roseate Terns in two tropical colonies on Culebra, Puerto Rico, 843-851  
Burger, Joanna, see Safina, Carl  
Burns, Jeffrey T., see Cheng, Kimberly M.  
Bushtit, see *Psaltiriparus minimus*  
*Buteo jamaicensis*, 193, 321, 916  
    *solitarius*, 341  
    *swainsoni*, 311-323  
*Buthraupis [Bangsia] arcaei*, 948  
    *edwardsi*, 947-948  
Byers, Steven M., see Semel, Brad

# C

- Caccamise, Donald F., and Morrison, Douglas W., Avian communal roosting: A test of the "patch-sitting" hypothesis, 453-458  
Cache survival, 247-249  
Caching, 621-631

- Cacicus cela*, 681-688  
 Cacique, Yellow-rumped, see *Cacicus cela*  
*Calamospiza melanocorys*, 935  
*Calidris ferruginea*, 931  
   *mauri*, 931  
   *pusilla*, 824-835, 931, 942  
 California, 389-394, 401-419, 802-815  
 Calling behavior, 304-310  
*Callipepla californica*, 78  
 Calls, 508-510  
*Calypte anna*, 234  
   *costae*, 375  
 Camilliere, James J., see Olson, John M.  
*Campylorhynchus brunneicapillus*, 321  
 Cannell, Peter F., Bakst, Murray R., and Asa, Cheryl S., Suggestions regarding alcoholic bird collections, 500-503  
 Canopy, 761-772  
 Canvasback, see *Aythya valisineria*  
 Carcass composition, 15-19  
   fat, 836-842  
 Cardinal, Northern, see *Cardinalis cardinalis*  
*Cardinalis cardinalis*, 299, 339-348, 588-591  
 Carduelinae, 745-760  
*Carduelis flammea*, 150, 152  
   *pinus*, 510-512  
   *tristis*, 125, 198, 254, 510-512, 534  
*Carnegia gigantea*, 791-801  
 Carpenter, Lynn F., and Hixon, Mark A., A new function for torpor: Fat conservation in a wild migrant hummingbird, 373-378  
*Carpodacus cassinii*, 151, 570  
   *mexicanus*, 58-60, 515, 534, 729-731  
   *purpureus*, 45, 504, 510-512  
 Carter, Harry R., and Hobson, Keith A., Creching behavior of Brandt's Cormorant chicks, 395-400  
*Casmerodius albus*, 512  
*Castilleja miniata*, 233-236  
 Catabolic capacity, 529-537  
 Catbird, Gray, see *Dumetella carolinensis*  
*Cathartes aura*, 484, 913-919, 937-938  
   *melambrotus*, 240  
*Catharus fuscescens*, 178  
   *guttatus*, 51-57, 175, 368, 504, 570  
   *minimus*, 176  
   *ustulatus*, 175, 272, 359-372  
*Catoptrophorus semipalmatus*, 201  
 Cavalcanti, Roberto B., and Pimentel, Thaís Martins, Shiny Cowbird parasitism in central Brazil, 40-43  
 Cavanaugh, Paul M., see Ritchison, Gary  
 Cavity-nesting birds, 61-71  
 Census methods, 613-620  
*Centrocercus urophasianus*, 15-19, 201, 716-717  
*Cephus columba*, 719  
   *grylle*, 712, 966  
*Cerorhinca monocerata*, 719, 966  
 Cerrado, 40-43  
*Certhia olivacea*, 506  
 Chaffinch, Common, see *Fringilla coelebs*  
*Charadrius vociferus*, 515  
*Chasiempis sandwichensis*, 345  
 Chat, Yellow-breasted, see *Icteria virens*  
*Chen caerulescens*, 16, 87, 263, 467, 731-734, 811  
 Cheng, Kimberly M., and Burns, Jeffrey T., Dominance relationship and mating behavior of domestic cocks - A model to study mate guarding and sperm competition in birds, 697-704  
 Cherel, Yves, and Le Maho, Yvon, Changes in body mass and plasma metabolites during short-term fasting in the King Penguin, 257-258  
 Chesapeake Bay, 860-865  
 Chickadee, Black-capped, see *Parus atricapillus*  
   Boreal, see *Parus hudsonicus*  
   Chestnut-backed, see *Parus rufescens*  
   Mountain, see *Parus gambeli*  
 Chicken, see *Gallus domesticus* or *Gallus gallus*  
 Chile, 259-261  
*Chlidonias niger*, 125, 505-507  
*Chordeiles minor*, 506  
 Christmas Island, 90-99  
 Cinclode, Bar-winged, see *Cinclodes fuscus*  
   Stout-billed, see *Cinclodes excelsior*  
*Cinclodes excelsior*, 251-253  
   *fuscus*, 252  
*Circus cyaneus*, 129  
*Cistothorus palustris*, 4, 125, 602  
   *platensis*, 129, 602  
*Clangula hyemalis*, 170  
 Clarion Island, 512-513  
 Climatic gradients, 113-123  
 Clutch desertions, 942-945  
   limitation, 459-472  
   size, 324-331, 956-958  
   size apportionment, 332-338  
   variation, 83-89  
*Coccyzus americanus*, 118, 292, 473-477  
   *euleri*, 477  
   *melacoryphus*, 505-507  
 Cock of the Rock, Guianan, see *Rupicola rupicola*  
*Coereba flaveola*, 292  
*Colaptes auratus*, 178, 515, 568, 654, 791-801, 927  
 Coleman, John S., Fraser, James D., and Scanlon, Patrick F., Hematocrit and protein concentration of Black Vulture and Turkey Vulture blood, 937-938  
*Colinus virginianus*, 11, 187-192  
 Collection management, 500-503  
 Colombia, 100-106, 251-253  
 Coloniality, 575-582, 714-715, 953-955  
 Colonization, 505-507  
 Colony attendance, 613-620  
   formation, 575-582  
 Colorado, 15-19, 253-256, 349-358, 546-554  
   River, 113-123  
*Columba leucocephala*, 504  
   *livia*, 201, 267, 552, 662-668  
*Columbina talpacoti*, 41  
 Colwell, Mark A., Gratto, Cheri L., Oring, Lewis W., and Fivizzani, Albert J., Effects of blood sampling on shorebirds: Injuries, return rates, and clutch desertions, 942-945  
 Combs, Shawn M., see Miller, Sherri L.  
 Communal nesting, 241-245  
   roosting behavior, 453-458  
 Communication, 632-636, 721-723  
 Competition, 233-236, 935-937  
*Compsohalieu fuscescens*, 893  
   *harrisi*, 893  
   *neglectus*, 893  
   *penicillatus*, 893  
   *perspicillatus*, 886

- Conry, Paul J., High nest predation by brown tree snakes on Guam, 478-482
- Contopus borealis*, 359-372, 515
- virens*, 368
- Cooperative breeding, 100-106, 311-323
- Coot, American, see *Fulica americana*
- Eurasian, see *Fulica atra*
- Copulation, 245-246
- Copying, 132-140
- Coragyps atratus*, 913, 937-938
- Corbin, Kendall W., Livezey, Bradley C., and Humphrey, Philip S., Genetic differentiation among steamer-ducks (Anatidae: *Tachyeres*): An electrophoretic analysis, 773-781
- Corbin, Kendall W., and Wilkie, Patricia J., Genetic similarities between subspecies of the White-crowned Sparrow, 637-647
- Cordonbleu, Red-cheeked, see *Uraeginthus bengalus*
- Cormorant, Bank, see *Phalacrocorax neglectus*
- Brandt's, see *Phalacrocorax penicillatus*
- Crowned, see *Phalacrocorax coronatus*
- Double-crested, see *Phalacrocorax auritus*
- Galápagos, see *Nannopterum harrisi*
- Great, see *Phalacrocorax carbo*
- Indian, see *Hypoleucos fuscicollis*
- Pallas', see *Pallasicorbo perspicillatus*
- Coronet, Buff-tailed, see *Boissoneaua flavescens*
- Corvus brachyrhynchos*, 35, 125, 193, 735, 936, 946, 950
- corax*, 270-271, 359-372, 950-952, 952
- corone*, 956
- kubaryi*, 479
- Costa Rica, 607-612, 761-772, 931-933
- Coturnix coturnix*, 189, 935
- Court objects, 538-545
- Cowbird, Bronzed, see *Molothrus aeneus*
- Brown-headed, see *Molothrus ater*
- Shiny, see *Molothrus bonariensis*
- Crake, Gray-breasted, see *Laterallus exilis*
- White-throated, see *Laterallus albigularis*
- Crawford, Robert L., see Terrill, Scott B.
- Creche, 395-400
- Creeper, Hawaii, see *Oreomystis mana*
- Crescentchest, Collared, see *Melanopareia torquata*
- Crossbill, Red, see *Loxia curvirostra*
- Crotophaga ani*, 506
- sulcirostris*, 241, 932
- Crow, American, see *Corvus brachyrhynchos*
- Mariana, see *Corvus kubaryi*
- Croxall, J. P., Davis, R. W., and O'Connell, M. J., Diving patterns in relation to diet of Gentoo and Macaroni penguins at South Georgia, 157-167
- Cruz, Alexander, see Ortega, Catherine P.
- Cryptic species, 745-760
- Cuckoo, Dark-billed, see *Coccyzus melacoryphus*
- Yellow-billed, see *Coccyzus americanus*
- Curlew, Bristle-thighed, see *Numenius tahitiensis*
- Curran-Everett, Linda, see Rahn, H.
- Curry, Robert L., and Stoleson, Scott H., New bird records from the Galápagos associated with the El Niño-Southern Oscillation, 505-507
- Cyanocitta cristata*, 128, 142, 353, 504, 950
- stelleri*, 52, 379-388, 428, 504
- Cyanocorax yncas*, 102
- Cyclarhis gujanensis*, 428

- Cyclorhynchus psittacula*, 448, 712
- Cygnus atratus*, 811
- buccinator*, 9
- columbianus*, 802-815
- olor*, 811
- Cypsnagra hirundinacea*, 41

## D

- Daily mortality, 51-57
- Dau, Christian P., see Handel, Colleen M.
- Davis, R. W., see Croxall, J. P.
- Dawson, William R., see Olson, John M.
- Day, Robert H., DeGange, Anthony R., Divoky, George J., and Troy, Declan M., Distribution and subspecies of the Dovekie in Alaska, 712-714
- DeGange, Anthony R., see Day, Robert H.
- Delayed plumage maturation, 379-388
- Dendragapus canadensis*, 489-492, 492-496
- obscurus*, 49, 494, 716-717
- Dendrocygna autumnalis*, 928
- Dendroica coronata*, 175, 261-263, 267, 272, 504, 567
- discolor*, 150, 932
- palmarum*, 273, 932
- petechia*, 125, 141-156, 254, 289-303, 355, 386, 552, 588-591
- tigrina*, 271-274
- Density dependence, 247-249
- estimates, 401-419
- Derrickson, Kim C., Variation in repertoire presentation in Northern Mockingbirds, 592-606
- Desertion, 588-591
- Development, 721-723
- Device-related disturbance, 816-823
- Dicrurus macrocercus*, 479
- Diet, 20-28, 157-167, 311-323, 458-472, 731-734, 860-865
- Dietary protein, 836-842
- Diomedea chrysostoma*, 214-219
- exulans*, 214-219, 446-452
- immutabilis*, 448
- irrorata*, 727-729
- melanophris*, 214-219
- Display objects, 538-545
- Distribution, 712-714
- Diurnal activity center, 453-458
- pattern, 697-704
- Dives dives, 932
- Diving, 157-167
- behavior, 168-172
- Divoky, George J., see Day, Robert H.
- Dolichonyx oryzivorus*, 125, 546
- Dominance, 201-213, 697-704, 729-731
- Doubly-labeled water method, 662-668
- Dove, Eared, see *Zenaida auriculata*
- Mourning, see *Zenaida macroura*
- Rock, see *Columba livia*
- Dovekie, see *Alle alle*
- Drongo, Black, see *Dicrurus macrocercus*
- Dryocopus pileatus*, 359-372
- Duck, Black, see *Anas rubripes*
- Black-bellied Whistling, see *Dendrocygna autumnalis*
- Harlequin, see *Histrionicus histrionicus*
- Maccoa, see *Oxyura maccoa*
- Musk, see *Biziura lobata*

- Ring-necked, see *Aythya collaris*  
 Ruddy, see *Oxyura jamaicensis*  
 Tufted, see *Aythya fuligula*  
 Wood, see *Aix sponsa*  
 Dufty, Alfred M., Jr., Flight whistle incorporated in Brown-headed Cowbird song, 508-510  
 Dufty, Alfred M., Jr., The effects of repeated blood sampling on survival in Brown-headed Cowbirds, 939-941  
 Dujardin, Jean-Luc, see Tostain, Olivier  
*Dumetella carolinensis*, 125, 178, 354  
 Duncan, David C., and Gaston, Anthony J., The relationship between precocity and body composition in some neonate alcids, 718-721  
 Dunn, Erica H., see MacInnes, Charles D.  
 Dunn, Peter O., May, Terry A., McCollough, Mark A., and Howe, Marshall A., Length of stay and fat content of migrant Semipalmated Sandpipers in eastern Maine, 824-835

## E

- Eagle, Bald, see *Haliaeetus leucocephalus*  
 Black, see *Aquila verreauxi*  
 Crested, see *Morphnus guianensis*  
 Ecophysiology, 257-258  
 Ectoparasite, 727-729  
 Ecuador, 947-948  
 Edinger, Bruce B., Extra-pair courtship and copulation attempts in Northern Orioles, 546-554  
 Effects of habitat, 124-131  
 Egg composition, 965-966  
 destruction, 935-937  
 mass, 324-331, 332-338  
 neglect, 727-729  
 predation, 124-131  
 weights, 709-711  
 Eggs, 236-239, 947-948, 965-966  
 Eggshell mass, 962-964  
 thickness, 962-964  
 Egret, Cattle, see *Ardeola ibis* or *Bubulcus ibis*  
 Great, see *Casmerodius albus*  
 Ehrlich, Paul R., and McLaughlin, John F., Scrub Jay predation on starlings and swallows: Attack and interspecific defense, 503-505  
 Eider, Common, see *Somateria mollissima*  
 Electrophoresis, 71-82, 241-245, 637-647, 773-781  
 Elepaio, see *Chasiempis sandwichensis*  
 El Niño, 259-261, 561-574  
 El Niño-Southern Oscillation, 505-507  
*Emberiza schoeniclus*, 153  
 Embryo mechanism, 187-192  
 Embryonic vocalizations, 721-723  
 Embryos, 958-959  
*Empidonax alnorum*, 253  
*flaviventris*, 5  
*hammondi*, 359, 563  
*minimus*, 272  
*oberholseri*, 563  
*traillii*, 253-256  
 Endangered species, 339-348, 389-394  
 Energetics, 107-112, 373-378  
 Energy conservation, 373-378  
 reserves, 15-19  
*Engraulis mordax*, 347-354  
*Eremophila alpestris*, 935-937  
*Erithacus rubecula*, 267  
*Eudocimus albus*, 943  
*Eudiptes chrysolophus*, 157-167  
*Eulampis holosericeus*, 295  
*Euleucocorbo chalconotus*, 886  
*colensoi*, 886  
*onslowi*, 886  
*ranfurlyi*, 886  
*Euphausia superba*, 157-167  
 Evans, Roger M., Embryonic vocalizations and the removal of foot webs from pipped eggs in the American White Pelican, 721-723  
 Evaporative water loss, 913-919  
 Everett, William T., Notes from Clarion Island, 512-513  
 Evolution, 802-815  
 Evolutionary unit, 1-14  
 Extinction, 906-912  
 Extra-pair copulation, 245-246, 546-554  
 courtship, 546-554

## F

- Falco columbarius*, 734-738  
*peregrinus*, 583  
*sparverius*, 290, 393, 512, 515-517, 555-560, 659  
*tinnunculus*, 69  
 Falcon, Peregrine, see *Falco peregrinus*  
 Falconiformes, 913-919  
 Fancher, Jack M., see Zembal, Richard  
 Fat content, 15-19, 824-835  
 Fecundity, 201-213  
 Feeding behavior, 239-241  
 rates, 173-186  
 zones, 214-219  
 Female aggression, 44-50  
 pairs, 933-935  
 Feral pigs, 512-513  
*Ficedula hypoleuca*, 61-71, 546  
 Field endocrinology, 942-945  
 Field techniques, 939-941  
 Finch, Cassin's, see *Carpodacus cassinii*  
 House, see *Carpodacus mexicanus*  
 Purple, see *Carpodacus purpureus*  
 Rosy, see *Leucosticte arctoa*  
 Warbler, see *Certhidea olivacea*  
 Zebra, see *Poephila guttata*  
 Fish, 157-167  
 population, 852-859  
 Fitch, Mary A., see Shugart, Gary W.  
 Fivizzani, Albert J., see Colwell, Mark A.  
 Fixation, 500-503  
 Fledging period, 948-950  
 Fledgling, 395-400  
 Fleshy fruits, 173-186  
 Flicker, Northern, see *Colaptes auratus*  
 Flight metabolism, 662-668  
 range, 824-835  
 speed, 662-668  
 Fluid specimens, 500-503  
 Flycatcher, Alder, see *Empidonax alnorum*  
 Ash-throated, see *Myiarchus cinerascens*



- Dusky, see *Empidonax oberholseri*  
 Fork-tailed, see *Tyrannus savana*  
 Great Crested, see *Myiarchus crinitus*  
 Hammond's, see *Empidonax hammondi*  
 Least, see *Empidonax minimus*  
 Olive-sided, see *Contopus borealis*  
 Puerto Rican, see *Myiarchus antillarum*  
 Willow, see *Empidonax traillii*
- Food habits, 689-696  
 limitation, 852-859  
 signals, 714-715  
 supply, 324-331
- Foods, 959-962
- Foot webs, 721-723
- Foraging, 132-140, 157-167, 621-631, 729-731, 945-947, 953-955, 959-962  
 behavior, 168-172, 453-458, 723-726, 731-734, 875-884  
 ecology, 173-186  
 methods, 20-28  
 range, 214-219  
 strategy, 233-236
- Forbes, M.R.L., and Ankney, C. D., Intracut clutch variation in egg weights of Pied-billed Grebes, 709-711
- Forest-Falcon, Barred, see *Micrastur ruficollis*  
 Lined, see *Micrastur gilvicolis*
- Fortner, Sharon, see Anderson, David J.
- Fox, Glen A., see Shugart, Gary W.
- Franklin, Alan B., Breeding biology of the Great Gray Owl in southeastern Idaho and northwestern Wyoming, 689-696
- Fraser, James D., see Coleman, John S.
- Fratercula arctica*, 966  
*cirrhata*, 448
- Fregata magnificens*, 96  
*minor*, 90-99, 225, 260
- French Guiana, 236-239
- Frigatebird, Great, see *Fregata minor*  
 Magnificent, see *Fregata magnificens*
- Fringilla coelebs*, 151, 488, 509
- Frugivores, 761-772
- Fulica americana*, 512, 907  
*atra*, 168, 327
- Furnarius rufus*, 301, 356
- G**
- Gadwall, see *Anas strepera*
- Galápagos, 505-507
- Gallinago gallinago*, 125
- Gallinula chloropus*, 125
- Gallinule, Purple, see *Porphyryla martinica*
- Gallus domesticus*, 707  
*gallus*, 187-192, 697-704
- Gaston, A. J., see Birkhead, T. R.
- Gaston, Anthony J., see Duncan, David C.
- Gehlbach, Frederick B., see McCallum, Archibald D.
- Gene flow, 637-647, 773-781
- Genetic distance, 428-445  
 variation, 71-82
- Geographic variation, 473-477
- Geospiza conirostris*, 757  
*fortis*, 506
- Geothlypis trichas*, 125, 150
- Gessaman, James A., and Nagy, Kenneth A., Transmitter loads affect the flight speed and metabolism of homing pigeons, 662-668
- Giant-Petrel, Northern, see *Macronectes halli*  
 Southern, see *Macronectes giganteus*
- Giant sequoia, 359-372
- Giroux, Jean-François, and Bédard, Jean, Age differences in the fall diet of Greater Snow Geese in Quebec, 731-734
- Glaucidium gnoma*, 359-372
- Glenn, George S., see Robbins, Mark B.
- Gnatcatcher, Black-tailed, see *Polioptila melanura*
- Gochfeld, Michael, see Burger, Joanna
- Gochfeld, Michael, see Safina, Carl
- Goldcrest, see *Regulus regulus*
- Goldeneye, Common, see *Bucephala clangula*
- Goldfinch, American, see *Carduelis tristis*
- Goose, Cackling, see *Branta minima*  
 Canada, see *Branta canadensis*  
 Lesser Snow, see *Chen caerulescens*  
 Snow, see *Chen caerulescens*
- Grackle, Greater Antillean, see *Quiscalus niger*
- Graham, Donald S., House Finch nest-site selection at Guelph, Ontario, 58-60
- Graham, Donald S., Responses of five host species to cowbird parasitism, 588-591
- Grallaria varia*, 238
- Granivory, 621-631
- Grassquit, Black-faced, see *Tiaris bicolor*  
 Yellow-faced, see *Tiaris olivacea*
- Gratto, Cheri L., see Colwell, Mark A.
- Graves, Gary R., and Arango, Gonzalo, Nest-site selection, nest, and eggs of the Stout-billed Cincloides (*Cinclodes excelsior*), a high Andean furnarid, 251-253
- Great Plains, 866-874
- Grebe, Atitlan, see *Podilymbus gigas*  
 Clark's, see *Aechmophorus clarkii*  
 Pied-billed, see *Podilymbus podiceps*  
 Western, see *Aechmophorus occidentalis*
- Green sea turtles, 512-513
- Greenberg, Russell, Water as a habitat cue for breeding Swamp and Song sparrows, 420-427
- Gregg, Michael L., see Miller, Sherri L.
- Grosbeak, Black-headed, see *Phaeucticus melanocephalus*  
 Blue, see *Guiraca caerulea*  
 Pine, see *Pinicola enucleator*  
 Rose-breasted, see *Phaeucticus ludovicianus*
- Groth, Jeffrey G., Resolution of cryptic species in Appalachian Red Crossbills, 745-760
- Ground-Dove, Ruddy, see *Columbina talpacoti*
- Ground-Finch, Medium, see *Geospiza fortis*
- Ground-nesting birds, 124-131
- Grouse, Blue, see *Dendragapus obscurus*  
 Red, *Lagopus lagopus*  
 Ruffed, see *Bonasa umbellus*  
 Sage, see *Centrocercus urophasianus*  
 Sharp-tailed, see *Tympanuchus phasianellus*  
 Spruce, see *Dendragapus canadensis*
- Guam, 478-482
- Guatemala, 906-912

- Guillemot, Black, see *Cephus grylle*  
 Pigeon, see *Cephus columba*  
*Guiraca caerulea*, 118  
 Gull, Franklin's, see *Larus pipixcan*  
 Herring, see *Larus argentatus*  
 Kelp, see *Larus dominicanus*  
 Laughing, see *Larus atricilla*  
 Red-billed, see *Larus novaehollandiae*  
 Ring-billed, see *Larus delawarensis*  
 Western, see *Larus occidentalis*  
*Gygis alba*, 225, 260  
*Gymnorhinus cyanocephalus*, 201-213, 624  
*Gypaetus barbatus*, 916
- H**
- Habitat, 607-612  
 saturation, 100-106, 311-323  
 selection, 420-427, 583-587, 653-661, 875-884  
 Haftorn, Svein, Mehlum, Fridtjof, and Bech, Claus,  
 Navigation to nest site in the Snow Petrel (*Pagodroma nivea*), 484-486  
*Halcyon cineromina*, 479  
*Haliaeetus leucocephalus*, 916  
*Halobaena caerulea*, 448  
 Handel, Colleen M., and Dau, Christian P., Seasonal  
 occurrence of migrant Whimbrels and Bristle-  
 thighed Curlews on the Yukon-Kuskokwim  
 Delta, Alaska, 782-790  
 Haney, J. Christopher, and Stone, Amy E., Littoral  
 foraging by Red Phalaropes during spring in the  
 northern Bering Sea, 723-726  
 Hannon, Susan J., see Martin, Kathy  
 Harper, Lee H., see Klein, Bert C.  
 Harrier, Northern, see *Circus cyaneus*  
 Harris, M. P., see Wanless, S.  
 Harrison, Peter, and Jehl, Joseph R., Jr., Notes on the  
 seabirds of Sala y Gomez, 259-261  
 Hatch, Martha A., see Hatch, Scott A.  
 Hatch, Scott A., and Hatch, Martha A., Colony atten-  
 dance and population monitoring of Black-legged  
 Kittiwakes on the Semidi Islands, Alaska, 613-  
 620  
 Hatchability, 920-930  
 Hatching asynchrony, 709-711  
 Hatchling mass, 332-338  
 Hawaii Island, 339-348  
 Hawk, Harris', see *Parabuteo unicinctus*  
 Hawaiian, see *Buteo solitarius*  
 Red-tailed, see *Buteo jamaicensis*  
 Swainson's, see *Buteo swainsoni*  
 Hawk-Eagle, African, see *Hieraaetus spilogaster*  
 Ornate, see *Spizaetus ornatus*  
 Heat loss, 913-919  
 Hébert, Percy N., and Barclay, Robert M. R., Parental  
 investment in Herring Gulls: Clutch apportion-  
 ment and chick survival, 332-338  
 Heck, M. Katy, see Koenig, Walter D.  
 Heinrich, Bernd, Raven tool use, 270-271  
 Heinrich, Bernd, Why do ravens fear their food?, 950-  
 952  
 Heitmeyer, Mickey E., Body composition of female  
 Mallards in winter in relation to annual cycle  
 events, 669-680

- Heitmeyer, Mickey E., Protein costs of the prebasic  
 molt of female Mallards, 263-266  
 Hejl, Sallie J., Verner, Jared, and Balda, Russell P.,  
 Weather and bird populations in true fir forests  
 of the Sierra Nevada, California, 561-574  
 Hematocrit, 937-938  
 Hematology, 937-938  
*Hemianthus munroi*, 345  
*virens*, 344  
*Hemithraupis guira*, 42  
 Hendricks, Paul, see McAuliffe, Joseph R.  
 Heritability, 83-89, 201-213  
 Heron, Great Blue, see *Ardea herodias*  
 Hiebert, Sara M., see Arcese, Peter  
*Hieraaetus spilogaster*, 583-587  
 Hill, Brad G., and Lein, M. Ross, Ecological relations  
 of sympatric Black-capped and Mountain chick-  
 adees in southwestern Alberta, 875-884  
 Hill, Geoffrey E., Age, plumage brightness, territory  
 quality, and reproductive success in the Black-  
 headed Grosbeak, 379-388  
 Hill, Wendy L., The effect of food abundance on the  
 reproductive patterns of coots, 324-331  
*Himatione sanguinea*, 339-348  
*Hirundo fulva*, 292  
*pyrrhonota*, 503-505, 714-716, 953-955  
*histrionicus*, 170  
 Hixon, Mark A., see Carpenter, F. Lynn  
 Hobson, Keith A., see Carter, Harry R.  
 Hoffenberg, Ann S., see Stouffer, Philip C.  
 Hole-nesting species, 241-245  
 Home range, 497-499  
 Homosexual, 933-935  
 Hornero, Rufous, see *Furnarius rufus*  
 Horvath, Eric G., and Sullivan, Kimberly A., Facul-  
 tative migration in Yellow-eyed Juncos, 482-  
 484  
 Host selection, 289-303  
 Howe, Marshall A., see Dunn, Peter O.  
 Howells, W. W., see Hustler, K.  
 Hummingbird, Allen's, see *Selasphorus sasin*  
 Andean Hillstar, see *Oreotrochilus estella*  
 Anna's, see *Calypte anna*  
 Antillean Crested, see *Orthorhynchus cristatus*  
 Blue-throated, see *Lampornis clemenciae*  
 Broad-tailed, see *Selasphorus platycercus*  
 Calliope, see *Stellula calliope*  
 Costa's, see *Calypte costae*  
 Rufous, see *Selasphorus rufus*  
 White-eared, see *Hylocharis leucotis*  
 Humphrey, Philip S., see Corbin, Kendall W.  
 Hunter, Laurie A., Status of the endemic Atitlan Grebe  
 of Guatemala: Is it extinct?, 906-912  
 Hunter, William C., Ohmart, Robert D., and Ander-  
 son, Bertin W., Use of exotic saltcedar (*Tamarix*  
*chinensis*) by birds in arid riparian systems, 113-  
 123  
 Hustler, K., and Howells, W. W., The effect of primary  
 production on breeding success and habitat se-  
 lection in the African Hawk-Eagle, 583-587  
 Hybridization, 716-717  
*Hylocharis leucotis*, 235  
*Hylocichla mustelina*, 178, 368



*Hylopezus macularius*, 238  
*Hylophilus aurantiifrons*, 428-445  
*decurtatus*, 428-445  
*hypoxanthus*, 428-445  
*ochraceiceps*, 428-445  
*poicilotis*, 428-445  
*thoracicus*, 428-445  
Hyperoxic, 187-192  
*Hypoleucos auritus*, 890  
*fuscicollis*, 886  
*olivaceus*, 887  
*varius*, 890

# I

Ibis, Sacred, see *Threskiornis aethiopicus*  
White, see *Eudocimus albus*  
*Icteria virens*, 118  
Icteridae, 962-964  
Icterids, 349-358  
*Icterus bonana*, 301  
*chryscephalus*, 301  
*dominicensis*, 289  
*galbula*, 5, 151, 354, 546-554  
*icterus*, 289  
*nigrogularis*, 301  
Idaho, 689-696  
Iiwi, see *Vestiaria coccinea*  
Incubation, 459-472, 489-492, 721-723, 958-959  
Indigobird, Village, see *Vidua chalybeata*  
Individual variability, 29-39  
Information center, 714-715, 953-955  
Injuries, 942-945  
Intergradation, 637-647  
Interspecific competition, 875-884  
defense, 503-505  
interactions, 607-612  
Intraspecific brood parasitism, 513-514  
*Iridoprocne bicolor*, 928  
Island endemics, 512-513  
*Ixobrychus exilis*, 125

# J

*Jacana jacana*, 931  
*spinosa*, 931  
Jacana, Northern, see *Jacana spinosa*  
Wattled, see *Jacana jacana*  
Jackson, S., Diets of the White-chinned Petrel and Sooty Shearwater in the southern Buengela region, South Africa, 20-28  
Jaeger, Pomarine, see *Stercorarius pomarinus*  
James Bay, 141-156  
James, Paul C., see Warkentin, Ian G.  
Jay, Blue, see *Cyanocitta cristata*  
Gray, see *Perisoreus canadensis*  
Gray-breasted, see *Aphelocoma ultramarina*  
Green, see *Cyanocorax yncas*  
Pinyon, see *Gymnorhinus cyanocephalus*  
Scrub, see *Aphelocoma coerulescens*  
Siberian, see *Perisoreus infaustus*  
Steller's, see *Cyanocitta stelleri*  
Jehl, Joseph R., Jr., see Harrison, Peter  
Johnson, Ned K., Zink, Robert M., and Marten, Jill

A., Genetic evidence for relationships in the avian family Vireonidae, 428-445  
Johnston Atoll, 90-99  
Jouventin, Pierre, see Weimerskirch, Henri  
Junco, Dark-eyed, see *Junco hyemalis*  
Yellow-eyed, see *Junco phaeotus*  
*Junco hyemalis*, 107-112, 425, 504, 567  
*phaeotus*, 482-484

# K

Kattan, Gustavo, Food habits and social organization of Acorn Woodpeckers in Colombia, 100-106  
Keane, Kathleen, see Massey, Barbara W.  
Kerlinger, P., and Lein, M. Ross, Population ecology of Snowy Owls during winter on the Great Plains of North America, 866-874  
Kestrel, American, see *Falco sparverius*  
European, see *Falco tinnunculus*  
Killdeer, see *Charadrius vociferus*  
Kingbird, Eastern, see *Tyrannus tyrannus*  
Gray, see *Tyrannus dominicensis*  
Western, see *Tyrannus verticalis*  
Kinglet, Golden-crowned, see *Regulus satrapa*  
Kirkpatrick, Roy L., see Servello, Frederick A.  
Kittiwake, Black-legged, see *Rissa tridactyla*  
Kiwi, Brown, see *Apteryx australis*  
Klein, Bert C., and Bierregaard, Richard O., Movement and calling behavior of the Lined Forest-Falcon (*Micrastur gilvicolis*) in the Brazilian Amazon, 497-499  
Klein, Bert C., Harper, Lee H., Bierregaard, Richard O., and Powell, George V. N., The nesting and feeding behavior of the Ornate Hawk-Eagle near Manaus, Brazil, 239-241  
Kleptogamy, 245-246  
Knight, Richard L., Effects of supplemental food on the breeding biology of the Black-billed Magpie, 956-958  
Knight, Richard L., and Temple, Stanley A., Nest-defense behavior in the Red-winged Blackbird, 193-200  
Knopf, Fritz L., see Sedgwick, James A.  
Koenig, Walter D., and Heck, M. Katy, Ability of two species of oak woodland birds to subsist on acorns, 705-708  
Kuritsubo, Amy R., see Miller, Sherri L.

# L

*Lagopus lagopus*, 17, 245-246, 558  
*leucurus*, 245  
*mutus*, 17, 245  
Lake Atitlán, 906-912  
Lammergeier, see *Gypaetus barbatus*  
*Lampornis clemenciae*, 235  
*Lanius collaris*, 319  
*excubitorius*, 319  
Lark, Horned, see *Eremophila alpestris*  
*Larus argentatus*, 128, 210, 332-338, 821, 933-935  
*atricilla*, 506, 512  
*delawarensis*, 934  
*dominicanus*, 250, 447

- glaucescens*, 952  
*novaeollandiae*, 210  
*occidentalis*, 396, 934  
*pipixcan*, 506  
*Laterallus albigularis*, 607–612  
*exilis*, 607–612, 931–933  
*jamaicensis*, 611  
Lein, M. Ross, see Hill, Brad G.  
Lein, M. Ross, see Kerlinger, P.  
Leiothrix, Red-billed, see *Leiothrix lutea*  
*Leiothrix lutea*, 339–348  
Le Maho, Yvon, see Cherel, Yves  
Length of stay, 824–835  
*Lepidocolaptes affinis*, 102  
*Leucocarbo bougainvillii*, 891  
*capensis*, 891  
*nigrogularis*, 891  
*Leucosticte arctica*, 572  
Levey, D. J., see Stiles, F. G.  
Limber pine, 621–631  
Lipid reserves, 718–721  
Lipids, 257–258  
Livezey, Bradley C., see Corbin, Kendall W.  
Lizard-Cuckoo, Puerto Rican, see *Saurothera vieilloti*  
Local enhancement, 132–140  
Locomotion cost, 662–668  
Loiselle, Bette A., Bird abundance and seasonality in a Costa Rican lowland forest canopy, 761–772  
Lombardo, Michael P., see Stouffer, Philip C.  
*Lonchura cucullata*, 289  
*punctulata*, 293  
Longevity, 201–213  
Lowland hardwood wetlands, 669–680  
*Loxia curvirostra*, 362  
*leucoptera*, 409–420  
*Loxigilla noctis*, 301  
*portoricensis*, 292  
*Loxops coccineus*, 345  
Lyrebird, Superb, see *Menura novaehollandiae*  
*Lyrurus tetricus*, 7

## M

- Macaw, Blue-and-yellow, see *Ara ararauna*  
MacInnes, Charles D., and Dunn, Erica H., Components of clutch size variation in arctic-nesting Canada Geese, 83–89  
*Macronectes giganteus*, 887  
*halli*, 448  
Magpie, Black-billed, see *Pica pica*  
Yellow-billed, see *Pica nuttalli*  
Magrath, Robert D., Cold tolerance of European Blackbird embryos and nestlings, 958–959  
Maher, William J., see Sutherland, James M.  
Mahoney, Sheila A., see Jehl, Joseph R., Jr.  
Maine, 824–835  
Males, 492–496  
Mallard, see *Anas platyrhynchos*  
Malmberg, Patti Katusic, and Willson, Mary F., Foraging ecology of avian frugivores and some consequences for seed dispersal in an Illinois woodland, 173–186  
Manitoba, 271–274  
Mannikin, Bronze, see *Lonchura cucullata*  
Nutmeg, see *Lonchura punctulata*  
*Margarops fuscatus*, 293, 504  
Marsh birds, 420–427  
Marshall, Joe T., Birds lost from a giant sequoia forest during fifty years, 359–372  
Marten, Jill A., see Johnson, Ned K.  
Martin, Caribbean, see *Progne dominicensis*  
Purple, see *Progne subis*  
Martin, John, Different feeding strategies of two sympatric hummingbird species, 233–236  
Martin, Kathy, and Hannon, Susan J., Early pair and extra-pair copulations in Willow Ptarmigan, 245–246  
Martin, Thomas E., and Roper, James J., Nest predation and nest-site selection of a western population of the Hermit Thrush, 51–57  
Marzluff, John M., and Balda, Russell P., Pairing patterns and fitness in a free-ranging population of Pinyon Jays: What do they reveal about mate choice?, 201–213  
Massey, Barbara W., Keane, Kathleen, and Boardman, Constance, Adverse effects of radio transmitters on the behavior of nesting Least Terns, 945–947  
Massey, Barbara W., see Atwood, Jonathan L.  
Mate choice, 193–200, 201–213  
guarding, 546–554, 697–704  
Mating behavior, 538–545  
Maturation, 802–815  
May, Terry A., see Dunn, Peter O.  
McAuliffe, Joseph R., and Hendricks, Paul, Determinants of the vertical distributions of woodpecker nest cavities in the saguaro cactus, 791–801  
McCallum, D. Archibald, and Gehlbach, Frederick R., Nest-site preferences of Flammulated Owls in western New Mexico, 653–661  
McCollough, Mark A., see Dunn, Peter O.  
McKittrick, Mary C., and Zink, Robert M., Species concepts in ornithology, 1–14  
McLaughlin, John F., see Ehrlich, Paul R.  
Meadowlark, Eastern, see *Sturnella magna*  
Pampas, see *Sturnella defilippii*  
Western, see *Sturnella neglecta*  
Mechanical clearing, 339–348  
Mehlum, Fridtjof, see Haftorn, Svein  
*Melanerpes carolinus*, 927  
*erythrocephalus*, 927  
*formicivorus*, 100–106, 241, 247, 504, 546, 705–708  
*lewis*, 515  
*uropygialis*, 791–801  
*Melanitta fusca*, 467  
*perspicillata*, 171  
*Melanopareia torquata*, 40  
*Meleagris gallopavo*, 702  
*Melospiza georgiana*, 125, 420–427, 486  
*lincolni*, 933  
*melodia*, 44–50, 125, 255, 420–427, 486–489, 509, 588–591, 681  
*Menura novaehollandiae*, 520  
Merlin, see *Falco columbarius*  
Metabolism, 913–919  
Metabolizable energy, 836–842  
*Micrastur gilvicolis*, 497–499  
*ruficollis*, 497–499  
*Microcarbo africanus*, 893  
*coronatus*, 886

- melanoleucus*, 893  
*niger*, 886  
*pygmaeus*, 886  
Migration, 261-263, 373-378, 669-680, 782-790, 824-835, 866-874  
Migratory orientation, 267-270  
Miller, Sherri L., Gregg, Michael A., Kuritsubo, Amy R., Combs, Shawn M., Murdock, Mary K., Nilsson, John A., Noon, Barry R., and Botzler, Richard G., Morphometric variation in Tundra Swans: Relationships among sex and age classes, 802-815  
Mimicry, 486-489  
*Mimus polyglottos*, 289, 592-606  
*saturninus*, 41  
Mixed-species flock, 132-140  
group, 510-512  
Mockingbird, Chalk-browed, see *Mimus saturninus*  
Galápagos, see *Nesomimus macdonaldi* or *parvulus*  
Northern, see *Mimus polyglottos*  
*Molothrus aeneus*, 301  
*ater*, 42, 125, 253-256, 289, 349-358, 359-372, 504, 508, 514, 553, 588-591, 939-941  
*badius*, 963  
*bonariensis*, 40-43, 289-303  
*rufocollaris*, 963  
Molt, 263-266, 669-680  
-migration overlap, 141-156  
Monoculture koa forest, 339-348  
Monophyly, 1-14  
Moorhen, Common, see *Gallinula chloropus*  
*Morphnus guianensis*, 240  
Morphology, 20-28, 802-815  
Morphometrics, 71-82, 745-760  
Morris, J. A., see Wanless, S.  
Morrison, Douglas W., see Caccamise, Donald F.  
Morrison, Michael L., On sample sizes and reliable information, 275-278  
Mortality, 259-261  
Multivariate analysis, 90-99, 745-760, 802-815  
Murdock, Mary K., see Miller, Sherri L.  
Murre, Common, see *Uria aalge*  
Thick-billed, see *Uria lomvia*  
Murrelet, Ancient, see *Synthliboramphus antiquus*  
Mutualism, 173-186  
*Myadestes obscurus*, 344  
*townsendi*, 359  
*Mycteria americana*, 917  
*Myiarchus antillarum*, 289  
*cinerascens*, 402  
*crinitus*, 5  
Myna, Common, see *Acridotheres tristis*  
*Myrmormis torquata*, 236-239  
*Myrmothera campanisona*, 236-239

# N

- Nagy, Kenneth A., see Gessaman, James A.  
*Nannopterum harrisi*, 886  
Naylor, Brian J., Szuba, Kandyd J., and Bendell, James F., Nest cooling and recess length of incubating Spruce Grouse, 489-492  
Nearctic forest migrants, 359-372

- Neophobia, 950-952  
*Neothraupis fasciata*, 40-43  
*Nesocarbo bransfieldensis*, 886  
*campbelli*, 886  
*Nesofregatta fuliginosa*, 359  
*Nesomimus macdonaldi*, 727  
*parvulus*, 506  
Nest, 236-239, 947-948  
-box placement, 920-930  
boxes, 61-71  
concealment, 51-57  
cooling, 489-492  
defense, 193-200  
desertion, 945-947  
distribution, 124-131  
orientation, 51-57  
-patch selection, 51-57  
predation, 51-57, 379-388, 478-482  
sites, 653-661  
-site competition, 241-245, 515-517  
-site selection, 51-57, 58-60, 734-738, 843-851, 875-884  
Nesting, 228-232, 239-241, 575-582, 948-950  
density, 956-958  
habitat, 311-323  
success, 51-57, 478-482  
Nestlings, 958-959  
Nevada, 515-517  
Nevado del Ruiz, 251-253  
New Mexico, 311-323, 379-388, 653-661  
*Nictiphrynus ocellatus*, 932  
Nighthawk, Common, see *Chordeiles minor*  
Night-Heron, Yellow-crowned, see *Nycticorax violacea*  
Nilsson, John A., see Miller, Sherri L.  
Noddy, Black, see *Anous minutus*  
Blue-Gray, see *Procelsterna cerulea*  
Brown, see *Anous stolidus*  
Nonbreeding, 555-560  
Nonshivering thermogenesis, 529-537  
Nonterritorial, 492-496  
Noon, Barry R., see Miller, Sherri L.  
Normoxic, 187-192  
North America, 473-477  
*Notiochelidon murina*, 252  
*Notocarbo albiventer*, 891  
*atriceps*, 886  
*bransfieldensis*, 891  
*georgianus*, 891  
*verrucosus*, 891  
*Nucifraga columbiana*, 270-271, 621-631  
Nuechterlein, Gary L., Parent-young vocal communication in Western Grebes, 632-636  
*Numenius phaeopus*, 782-790  
*tahitiensis*, 782-790  
Nutcracker, Clark's, see *Nucifraga columbiana*  
Nuthatch, European, see *Sitta europaea*  
Pygmy, see *Sitta pygmaea*  
Red-breasted, see *Sitta canadensis*  
White-breasted, see *Sitta carolinensis*  
Nutrient reserves, 459-472  
*Nyctea scandiaca*, 866-874  
Nyctibiidae, 948-950  
*Nyctibius grandis*, 948-950  
*Nycticorax violaceus*, 860-865

## O

- Oak-pine woodlands, 401-419  
 Oaks, 705-708  
*Oceanites oceanicus*, 250  
*Oceanodroma leucorhoa*, 484  
 O'Connell, M. J., see Croxall, J. P.  
 Ohmart, Robert D., see Hunter, William C.  
 Oilbird, see *Steatornis caripensis*  
 Oldsquaw, see *Clangula hyemalis*  
 Olfactory navigation, 484-486  
 Olson, John M., Dawson, William R., and Camilliere, James J., Fat from Black-capped Chickadees: Avian brown adipose tissue?, 529-537  
 Omas, see *Myadestes obscurus*  
 O'Neil, Thomas A., Controlled pool elevation and its effects on Canada Goose productivity and nest location, 228-232  
*Oporornis formosus*, 269  
*Oreortyx pictus*, 359-372  
*Oreoscoptes montanus*, 356  
*Oreotrochilus estella*, 373  
 Oring, Lewis W., see Colwell, Mark A.  
 Oriole, Black-cowled, see *Icterus dominicensis*  
   Martinique, see *Icterus bonana*  
   Moriche, see *Icterus chrysiocephalus*  
   Northern, see *Icterus galbula*  
   Yellow, see *Icterus nigrogularis*  
 Ortega, Catherine P., and Cruz, Alexander, Mechanisms of egg acceptance by marsh-dwelling blackbirds, 349-358  
*Orthorhynchus cristatus*, 295  
 Osprey, see *Pandion haliaetus*  
 Osteology, 885-905  
*Otus asio*, 648-652, 657  
   *bakkamoena*, 651  
   *flammeolus*, 359-372, 651, 653-661  
   *kennicottii*, 363  
   *nudipes*, 292  
 Owl, Boreal, see *Aegolius funereus*  
   Burrowing, see *Athene cunicularia*  
   Collared Scops, see *Otus bakkamoena*  
   Flammulated, see *Otus flammeolus*  
   Great Gray, see *Strix nebulosa*  
   Great Horned, see *Bubo virginianus*  
   Spotted, see *Strix occidentalis*  
   Ural, see *Strix uralensis*  
 Oxygen consumption, 913-919  
 Oxygen-limitation hypothesis, 187-192  
*Oxyura jamaicensis*, 168-172

## P

- Pacific Islands, 478-482  
 Packed cell volume, 937-938  
*Pagodroma nivea*, 484-486  
 Pair bond, 201-213  
   formation, 669-680  
*Pallasciarbo perspicillatus*, 886  
 Panama, 681-688  
*Pandion haliaetus*, 512, 857, 917, 953  
 Papua New Guinea, 538-545  
*Parabuteo unicinctus*, 311-323  
 Parakeet, Rufous-fronted, see *Bolborhynchus ferrugineifrons*  
 Parasitic icterids, 962-964  
 Parasitism, 588-591  
 Parental care, 29-39, 193-200  
   investment, 332-338  
 Parmelee, David F., and Parmelee, Jean M., Ravens observed killing roosting kittiwakes, 952  
 Parotia, Lawes', see *Parotia lawesii*  
*Parotia lawesii*, 538-545  
 Partridge, Gray, see *Perdix perdix*  
*Parula pitiayuma*, 428  
*Parula*, Tropical, see *Parula pitiayumi*  
*Parus ater*, 882  
   *atricapillus*, 37, 529-537, 875-884  
   *bicolor*, 132-140  
   *caeruleus*, 133, 707, 882  
   *carolinensis*, 132-140, 882  
   *gambeli*, 64, 275, 570, 875-884  
   *hudsonicus*, 882  
   *inornatus*, 402, 604  
   *major*, 37, 61-71, 124, 133, 152, 327, 386, 488, 491  
   *montanus*, 152, 491  
   *palustris*, 133, 248  
   *rufescens*, 275, 882  
*Passer domesticus*, 504, 515, 546, 752  
*Passerculus sandwichensis*, 267  
*Passerella iliaca*, 11, 362  
*Passerina ciris*, 118  
   *cyanea*, 48, 299, 546, 594  
 Pecos River, 113-123  
*Pelecanus erythrorhynchos*, 721-723  
   *occidentalis*, 721  
 Pelican, American White, see *Pelecanus erythrorhynchos*  
   Brown, see *Pelecanus occidentalis*  
 Penguin, Chinstrap, see *Pygoscelis antarctica*  
   Gentoo, see *Pygoscelis papua*  
   Jackass, see *Spheniscus demersus*  
   King, see *Aptenodytes patagonicus*  
   Macaroni, see *Eudyptes chrysolophus*  
 Pennsylvania, 420-427  
*Perdix perdix*, 304-310, 873  
*Perisoreus cadensis*, 247-249, 504  
   *infaustus*, 247  
 Petrel, Antarctic, see *Thalassoica antarctica*  
   Blue, see *Halobaena caerulea*  
   Kerguelan, see *Pterodroma brevirostris*  
   Leach's, see *Oceanodroma leucorhoa*  
   Snow, see *Pagodroma nivea*  
   White-chinned, see *Procellaria aequinoctialis*  
*Phaethon rubricauda*, 259  
 Phalacrocoracidae, 885-905  
 Phalacrocoracinae, 885-905  
*Phalacrocorax albiventer*, 220-227  
   *aristotelis*, 210, 220, 395  
   *atriceps*, 220-227, 399  
   *auritus*, 395-400  
   *capillatus*, 890  
   *carbo*, 222, 887  
   *coronatus*, 395  
   *gaimardi*, 225  
   *magellicanus*, 220  
   *neglectus*, 225  
   *penicillatus*, 395-400  
 Phalarope, Red, see *Phalaropus fulicaria*  
   Red-necked, see *Phalaropus lobatus*  
   Wilson's, see *Phalaropus tricolor*

- Phalaropus fulicaria*, 723-726  
    *lobatus*, 725  
    *tricolor*, 942  
*Pharomachorus antisianus*, 102  
    *auriceps*, 102  
*Phaethicus ludovicianus*, 125, 505-507  
    *melanocephalus*, 45, 379-388  
*Philopatry*, 389-394  
*Phlegopsis nigromaculata*, 237  
*Phoebe*, Black, see *Sayornis nigricans*  
*Phoebastria fusca*, 214  
    *palpebrata*, 214  
*Phylloscopus trochilus*, 152  
*Phylogenetic inference*, 428-445  
    relationships, 773-781  
*Phylogenetics*, 885-905  
*Pica pica*, 29-39, 248, 428, 552, 735, 956-958  
    *nuttalli*, 36, 552  
*Picman*, Jaroslav, Experimental study of predation on eggs of ground-nesting birds: Effects of habitat and nest distribution, 124-131  
*Picman*, Jaroslav, and Belles-Isles, Jean-Claude, Evidence for intraspecific brood parasitism in the House Wren, 513-514  
*Picman*, Jaroslav, see Schaeff, Catherine  
*Picoides albolarvatus*, 365, 563  
    *pubescens*, 132-140  
    *villosus*, 359-372, 563, 654  
*Piculus rivolii*, 102  
*Pigeon*, White-crowned, see *Columba leucocephala*  
*Pimentel*, Thais Martins, see Cavalcanti, Roberto B.  
*Pinnicola enucleator*, 152  
*Piñon pine*, 621-631  
*Pipilo aberti*, 4, 71  
    *albicollis*, 4, 71  
    *chlorurus*, 74  
    *erythrophthalmus*, 48, 515  
    *fuscus*, 4, 71-82, 403, 503  
*Pipit*, Water, see *Anthus spinoletta*  
*Piranga rubra*, 118  
*Plastic pollution*, 446-452  
*Playback*, 648-652  
*Ploceus cucullatus*, 491  
*Plover*, Greater Golden-, see *Pluvialis apricaria*  
*Plumage brightness*, 379-388  
    maturation, 729-731  
*Pluvialis apricaria*, 386  
*Pochard*, Common, see *Aythya ferina*  
*Podilymbus podiceps*, 709-711  
*Poephila guttata*, 509  
*Poliptila melanura*, 119  
*Polygyny*, 241-245  
*Ponderosa pine forests*, 61-71  
*Poorwill*, Ocellated, see *Nictiphrynus ocellatus*  
*Popp*, James W., Scanning behavior of finches in mixed-species groups, 510-512  
*Population biology*, 61-71  
    monitoring, 613-620  
    genetic structure, 637-647, 773-781  
*Porphyry martinica*, 240, 506  
*Porzana carolina*, 125, 326  
*Potoo*, Great, see *Nyctibius grandis*  
*Powell*, George V. N., see Klein, Bert C.  
*Power*, Harry W., see Stouffer, Philip C.  
*Prebasic molt*, 141-156  
*Precocity*, 718-721  
*Predation*, 58-60, 503-505, 935-937  
*Predatory behavior*, 952  
*Preservation*, 500-503  
*Prey capture rate*, 157-167  
    complex, 860-865  
    delivery, 816-823  
*Primary production*, 583-587  
*Prion*, Antarctic, see *Puffinus desolata*  
    Broad-billed, see *Puffinus vittata*  
*Procellaria aequinoctialis*, 20-28, 448  
*Procelsterna cerulea*, 260  
*Productivity*, 228-232  
*Progne dominicensis*, 292  
    *subis*, 37, 154, 504, 730  
*Protein concentration*, 937-938  
    costs, 263-266  
    polymorphism, 637-647, 773-781  
*Proteins*, 257-258  
*Protonotaria citrea*, 519  
*Pruett-Jones*, M. A., see Pruett-Jones, S. G.  
*Pruett-Jones*, S. G., and Pruett-Jones, M. A., The use of court objects by Lawes' Parotia, 538-545  
*Psaltiriparus minimus*, 402  
*Ptarmigan*, Rock, see *Lagopus mutus*  
    White-tailed, see *Lagopus leucurus*  
    Willow, see *Lagopus lagopus*  
*Pterodroma brevirostris*, 448  
*Ptilorus paradiseus*, 543  
    *victoriae*, 543  
*Ptychoramphus aleuticus*, 719  
*Puerto Rico*, 289-303, 843-851  
*Puffin*, Atlantic, see *Fratercula arctica*  
    Common, see *Fratercula arctica*  
    Tufted, see *Fratercula cirrhata*  
*Puffinus auricularis*, 512  
    *desolata*, 447  
    *gravius*, 26  
    *griseus*, 20-28, 450, 506  
    *nativitatis*, 259  
    *tenuirostris*, 447  
    *vittata*, 447  
*Pygmy-Owl*, Northern, see *Glaucidium gnoma*  
*Pygoscelis antarctica*, 157, 249-250  
    *papua*, 157-167  
*Pyrrhula pyrrhula*, 151, 263
- ## Q
- Quail*, California, see *Callipepla californica*  
    Coturnix, see *Coturnix coturnix*  
    Mountain, see *Oreotyx pictus*  
*Québec*, 731-734  
*Quercus humboldtii*, 100-106  
*Quiscalus niger*, 289  
    *quiscula*, 125, 175, 458, 518, 710
- ## R
- Radiotelemetry*, 662-668, 945-947  
*Rahn*, H., Curran-Everett, Linda, and Booth, D. T., Eggshell differences between parasitic and non-parasitic Icteridae, 962-964  
*Rail*, Black, see *Lateralus jamaicensis*  
    Clapper, see *Rallus longirostris*  
    Light-footed Clapper, see *Rallus longirostris*  
    Virginia, see *Rallus limicola*  
    Yuma Clapper, see *Rallus longirostris*

- Rainforest, 761-772  
*Rallus limicola*, 125  
*longirostris*, 959-962  
Randomization test, 201-213  
Raptor censuses, 866-874  
Rare songs, 592-606  
Rasmussen, Pamela C., Stepwise molt of remiges in Blue-eyed and King shags, 220-227  
Ratti, John T., see Rotella, Jay J.  
Raven, Northern, see *Corvus corax*  
Razorbill, see *Alca torda*  
Recess length, 489-492  
Recurrence interval, 592-606  
Red fir, 561-574  
Redhead, see *Aythya americana*  
Redpoll, Common, see *Carduelis flammea*  
Lesser, see *Carduelis flammea*  
Redwing, see *Turdus iliacus*  
Reed-Bunting, Common, see *Emberiza schoeniclus*  
*Regulus regulus*, 491  
*satrapa*, 359  
Rehder, N. B., Bird, D. M., and Sanford, L. M., Plasma androgen levels and body weights for breeding and nonbreeding male American Kestrels, 555-560  
Rejecters, 349-358  
Remington, T. E., and Braun, C. E., Carcass composition and energy reserves of Sage Grouse during winter, 15-19  
Removal experiment, 492-496  
Rensel, Jack A., and White, Clayton M., First description of hybrid Blue X Sage grouse, 716-717  
Repertoire, 681-688  
Reproductive patterns, 324-331  
Resource localization, 311-323  
partitioning, 214-219, 791-801  
Return rates, 942-945  
Revillagigedo Islands, 512-513  
Riflebird, Paradise, see *Ptilorus paradiseus*  
Queen Victoria's, see *Ptilorus victorae*  
Rimmer, Christopher C., Timing of the definitive prebasic molt in Yellow Warblers at James Bay, Ontario, 141-156  
Rio Grande, 113-123  
*Riparia riparia*, 552, 953-955  
Riparian, 113-123  
*Rissa tridactyla*, 201, 613-620, 725, 934, 952  
Ritchison, Gary, Cavanagh, Paul M., Belthoff, James R., and Sparks, Earl J., The singing behavior of Eastern Screech-Owls: Seasonal timing and response to playback of conspecific song, 648-652  
Ritter, Lyman V., see Verner, Jared  
Robbins, Mark B., and Glenn, George S., First description of the nest and eggs of the Moss-backed Tanager (*Buthraupis [Bangsia] edwardsi*), 947-948  
Robin, American, see *Turdus migratorius*  
European, see *Erithacus rubecula*  
Rogers, Christopher M., see Webb, D. R.  
Romagnano, Linda C., see Stouffer, Philip C.  
Roost, 395-400, 453-458  
Roosting, 952  
Roper, James J., see Martin, Thomas E.  
Rotella, Jay J., and Ratti, John T., Seasonal variation in Gray Partridge vocal behavior, 304-310  
*Rupicola rupicola*, 702  
Ryan, Peter G., Intraspecific variation in plastic ingestion by seabirds and the flux of plastic through seabird populations, 446-452
- S
- Safina, Carl, Burger, Joanna, Gochfeld, Michael, and Wagner, Richard H., Evidence for prey limitation of Common and Roseate tern reproduction, 852-859  
*Saguinus fuscicollis*, 240  
Sahuaro cactus, 791-801  
Sakai, Howard F., Avian response to mechanical clearing of a native rainforest in Hawaii, 339-348  
Sala y Gomez, 259-261  
Salt marsh, 959-962  
Saltcedar, 113-123  
Sandberg, Roland, Skylight polarization does not affect the migratory orientation of European Robins, 267-270  
Sandpiper, Curlew, see *Calidris ferruginea*  
Semipalmated, see *Calidris pusilla*  
Solitary, see *Tringa solitaria*  
Spotted, see *Actitis macularia*  
Western, see *Calidris mauri*  
Sanford, L. M., see Rehder, N. B.  
Sapsucker, Yellow-bellied, see *Sphyrapicus varius*  
Saskatchewan, 734-738  
*Satrapa icterophrys*, 5  
*Saurothera vieilloti*, 298  
*Saxicola torquata*, 198  
*Sayornis nigricans*, 363  
Scanlon, Patrick F., see Coleman, John S.  
Scanning, 510-512  
Scatterhoard, 247-249  
Scaup, Greater, see *Aythya marila*  
Lesser, see *Aythya affinis*  
Schaeff, Catherine, and Picman, Jaroslav, Destruction of eggs by Western Meadowlarks, 935-937  
Schreiber, Elizabeth Anne, and Schreiber, Ralph W., Great Frigatebird size dimorphism on two Central Pacific atolls, 90-99  
Schreiber, Ralph W., see Schreiber, Elizabeth Anne  
*Scolopax minor*, 125  
Scoter, Surf, see *Melanitta perspicillata*  
White-winged, see *Melanitta fusca*  
Screech-Owl, Eastern, see *Otus asio*  
Puerto Rican, see *Otus nudipes*  
Western, see *Otus kennicottii*  
Seabirds, 257-258, 259-261, 446-452, 852-859  
Sealy, Spencer G., Aggressiveness in migrating Cape May Warblers: Defense of an aquatic food source, 271-274  
Seasonality, 761-772  
Sedgwick, James A., and Knopf, Fritz L., A high incidence of Brown-headed Cowbird parasitism of Willow Flycatchers, 253-256  
Seed dispersal, 173-186  
*Seiurus noveboracensis*, 152, 268, 271, 368  
*Selasphorus platycercus*, 373  
*rufus*, 233-236, 374  
*sasin*, 235  
Semel, Brad, Sherman, Paul W., and Byers, Steven M.,



- Effects of brood parasitism and nest-box placement on Wood Duck breeding ecology, 920-930
- Servello, Frederick A., and Kirkpatrick, Roy L., Nutrition and condition of Ruffed Grouse during the breeding season in southwestern Virginia, 836-842
- Sex ratio, 933-935
- Sexual dimorphism, 90-99, 745-760, 802-815
- Shag, Blue-eyed, see *Phalacrocorax atriceps*
- Cape, see *Leucocarbo capensis*
- Chatham Island, see *Stictocarbo featherstoni*
- European, see *Phalacrocorax aristotelis*
- Guanay, see *Leucocarbo bougainvillii*
- Kerguelen, see *Notocarbo verrucosus*
- King, see *Phalacrocorax albiventer*
- Red-legged, see *Phalacrocorax gaimardi* or *Stictocarbo gaimardi*
- Rock, see *Phalacrocorax magellanicus*
- Socotra, see *Leucocarbo nigrogularis*
- Spotted, see *Stictocarbo punctatus*
- Shearwater, Christmas, see *Puffinus nativitatis*
- Greater, see *Puffinus gravis*
- Short-tailed, see *Puffinus tenuirostris*
- Sooty, see *Puffinus griseus*
- Townsend's, see *Puffinus auricularis*
- Sherman, Paul W., see Semel, Brad
- Shorebirds, 824-835, 942-945
- Shrike, Fiscal, see *Lanius collaris*
- Gray-backed Fiscal, see *Lanius excubitorius*
- Shugart, Gary W., Fitch, Mary A., and Fox, Glen A., Female pairing: A reproductive strategy for Herring Gulls, 933-935
- Sialia currucoides*, 515, 552, 654
- mexicana*, 61-71, 365, 515, 654
- sialis*, 37, 928, 943
- Siegel-Causey, Douglas, Phylogeny of the Phalacrocoracidae, 885-905
- Sierra Nevada, 561-574
- Singing behavior, 648-652
- organization, 681-688
- Siskin, Pine, see *Carduelis pinus*
- Site fidelity, 389-394
- selection, 653-661
- Sitta canadensis*, 359
- carolinensis*, 64, 132-140
- europaea*, 67
- pygmaea*, 61-71, 504
- Skylark, see *Alauda arvensis*
- Skylight polarization, 267-270
- Snags and wildlife, 359-372
- Snake predation, 478-482
- Snipe, Common, see *Gallinago gallinago*
- Social attraction, 575-582
- behavior, 546-554, 729-731
- facilitation, 132-140
- Solitaire, Townsend's, see *Myadestes townsendi*
- Somateria mollissima*, 171, 469
- Song, 486-489, 681-688
- learning, 44-50
- presentation, 592-606
- repertoires, 592-606
- sequences, 681-688
- types, 592-606, 648-652
- Songs, 508-510
- Songthrush, see *Turdus philomelos*
- Sonograms, 304-310
- Sonoran Desert, 791-801
- Sora, see *Porzana carolina*
- Southern Africa, 446-452
- Sparks, Earl J., see Ritchison, Gary
- Sparrow, Chipping, see *Spizella passerina*
- Field, see *Spizella pusilla*
- Fox, see *Passerella iliaca*
- Grassland, see *Ammodramus humeralis*
- House, see *Passer domesticus*
- Lincoln's, see *Melospiza lincolnii*
- Rufous-collared, see *Zonotrichia capensis*
- Savannah, see *Passerculus sandwichensis*
- Song, see *Melospiza melodia*
- Swamp, see *Melospiza georgiana*
- White-crowned, see *Zonotrichia leucophrys*
- White-throated, see *Zonotrichia albicollis*
- Sparrowhawk, Eurasian, see *Accipiter nisus*
- Speciation, 1-14, 71-82
- Species concepts, 1-14
- limits, 71-82
- richness, 339-348
- Specimens, 931-933
- Sperm competition, 697-704
- Spheniscus demersus*, 157
- Sphyrapicus varius*, 365, 880
- Spindalis zana*, 293
- Spirit specimens, 500-503
- Spizaetus ornatus*, 239-241
- Spizella passerina*, 362, 588-591
- pusilla*, 124
- Spot mapping, 401-419
- Spring nutrition, 836-842
- St. Lawrence Island, 723-726
- Staging area, 453-458, 824-835
- Stahl, Jean Claude, see Weimerskirch, Henri
- Starling, European, see *Sturnus vulgaris*
- Starvation, 270-271
- Steamer-Duck, Flying, see *Tachyeres patachonicus*
- Steatornis caripensis*, 932
- Stellula calliope*, 233-236
- Stercorarius pomarinus*, 932
- Sterna albigrons*, 389
- anaethetus*, 850
- antillarum*, 389-394, 575-582, 945-947
- dougallii*, 847-851, 852-859, 945
- fuscata*, 260, 844, 932
- hirundo*, 505, 710, 843-851, 852-859, 945
- paradisaea*, 210
- Stictocarbo aristotelis*, 891
- featherstoni*, 886
- gaimardi*, 891
- magellanicus*, 891
- pelagicus*, 891
- punctatus*, 891
- urile*, 891
- Stiles, F. Gary, Notes on the distribution and status of certain birds in Costa Rica, 931-933
- Stiles, F. G., and Levey, D. J., The Gray-breasted Crake (*Laterallus exilis*) in Costa Rica: Vocalizations, distribution, and interactions with White-throated Crakes (*L. albigularis*), 607-612
- Stoddard, Philip Kraft, see Arcese, Peter
- Stoddard, Philip Kraft, The "bugs" call of the Cliff

- Swallow: A rare food signal in a colonially nesting bird species, 714–715
- Stoleson, Scott H., see Curry, Robert L.
- Stone, Amy E., see Haney, J. Christopher
- Stonechat, see *Saxicola torquata*
- Stopover sites, 271–274
- Stork, Wood, see *Mycteria americana*
- Storm-Petrel, White-throated, see *Nesofregetta fuliginosa*
- Stouffer, Philip C., Romagnano, Linda C., Lombardo, Michael P., Hoffenberg, Ann S., and Power, Harry W., A case of communal nesting in the European Starling, 241–245
- Streptopelia bitorquata*, 478–482
- Strix nebulosa*, 689–696
- occidentalis*, 359–372
- uralensis*, 650
- Sturnella defilippii*, 301
- magna*, 125, 602, 936
- neglecta*, 604, 935–937
- Sturnus vulgaris*, 241–245, 453–458, 503–505, 515–517
- Stutchbury, Bridget J., Evidence that Bank Swallow colonies do not function as information centers, 953–955
- Subspecies, 1–14, 637–647, 773–781
- Sula dactylatra*, 220, 260, 512
- sula*, 260, 512
- Sullivan, Kimberly A., see Horvath, Eric G.
- Supplemental food, 956–958
- Surf feeding, 723–726
- Survival, 939–941
- Swallow, Bank, see *Riparia riparia*
- Brown-bellied, see *Notiochelidon murina*
- Cave, see *Hirundo fulva*
- Cliff, see *Hirundo pyrrhonota*
- Tree, see *Tachycineta bicolor*
- Violet-green, see *Tachycineta thalassina*
- Swan, Bewick's, see *Cygnus columbianus*
- Black, see *Cygnus atratus*
- Mute, see *Cygnus olor*
- Trumpeter, see *Cygnus buccinator*
- Tundra, see *Cygnus columbianus*
- Swift, Kendra, see Williams, Joseph B.
- Swiftlet, White-bellied, see *Collocalia esculenta*
- Synthliboramphus antiquus*, 718, 965–966
- Systematics, 885–905
- Szuba, Kandyd J., and Bendell, James F., Nonterritorial males in populations of Spruce Grouse, 492–496
- Szuba, Kandyd J., see Naylor, Brian J.
- T**
- Tachycineta bicolor*, 515, 518, 519
- thalassina*, 61–71
- Tachyeres brachypterus*, 773–781
- leucocephalus*, 773–781
- patachonicus*, 773–781
- pteneres*, 773–781
- Tamarin, Saddle-backed, see *Saguinus fuscicollis*
- Tanager, Guira, see *Hemithraupis guira*
- Moss-backed, see *Buthraupis [Bangsia] edwardsi*
- Palm, see *Thraupis palmarum*
- Sayaca, see *Thraupis sayaca*
- Stripe-headed, see *Spindalis zena*
- Summer, see *Piranga rubra*
- White-banded, see *Neothraupis fasciata*
- White-rumped, see *Cypsnagra hirundinacea*
- Tannins, 705–708
- Teal, Blue-winged, see *Anas discors*
- Green-winged, see *Anas crecca*
- Temperature regulation, 913–919
- Temple, Stanley A., see Knight, Richard L.
- Tern, Arctic, see *Sterna paradisaea*
- Black, see *Chlidonias niger*
- Bridled, see *Sterna anaethetus*
- Common, see *Sterna hirundo*
- Fairy, see *Gygis alba*
- Least, see *Sterna antillarum*
- Little, see *Sterna albifrons*
- Roseate, see *Sterna dougallii*
- Terrill, Scott B., and Crawford, Robert L., Additional evidence of nocturnal migration by Yellow-rumped Warblers in winter, 261–263
- Territoriality, 44–50, 61–71, 233–236, 271–274
- Testosterone, 44–50
- Thamnophilidae, 236–239
- Thermal tolerance, 958–959
- Thermoregulation, 107–112, 395–400
- Thrasher, Brown, see *Toxostoma rufum*
- Crissal, see *Toxostoma dorsale*
- Pearly-eyed, see *Margarops fuscatus*
- Sage, see *Oreoscoptes montanus*
- Thraupis palmarum*, 41
- sayaca*, 41
- Thrush, Hermit, see *Catharus guttatus*
- Red-legged, see *Turdus plumbeus*
- Swainson's, see *Catharus ustulatus*
- Thryomanes bewickii*, 402, 604
- Thryothorus ludovicianus*, 594
- Tiarus bicolor*, 293
- olivacea*, 293
- Time budgets, 613–620
- Timing of breeding, 83–89
- Tit, Blue, see *Parus caeruleus*
- Coal, see *Parus ater*
- Great, see *Parus major*
- Marsh, see *Parus palustris*
- Willow, see *Parus montanus*
- Titmouse, Plain, see *Parus inornatus*
- Todd, Frank S., Weddell seal preys on Chinstrap Penguin, 249–250
- Tome, Michael W., and Wrubleski, Dale A., Underwater foraging behavior of Canvasbacks, Lesser Scaups, and Ruddy Ducks, 168–172
- Tool use, 270–271
- Torpor, 373–378
- Tostain, Olivier, and Dujardin, Jean-Luc, Nesting of the Wing-banded Antbird and the Thrush-like Antpitta in French Guiana, 236–239
- Toucanet, Emerald, see *Aulacorhynchus prasinus*
- Tower kills, 261–263
- Towhee, Abert's, see *Pipilo aberti*
- Brown, see *Pipilo fuscus*
- Rufous-sided, see *Pipilo erythrophthalmus*
- White-throated, see *Pipilo albicollis*
- Toxostoma crissale*, 356
- dorsale*, 118
- rufum*, 356

- Trainer, Jill M., Singing organization during aggressive interactions among male Yellow-rumped Caciques, 681-688
- Transects, 401-419
- Transition matrix, 681-688
- Trawler offal, 20-28
- Tringa flavipes*, 512
- solitaria*, 272
- Troglodytes aedon*, 52, 64, 125, 301, 359-372, 513-514, 515
- tanneri*, 512-515
- troglydites*, 359-372
- Tropical, 761-772
- biology, 843-851
- Tropicbird, Red-tailed, see *Phaethon rubricauda*
- Troupial, see *Icterus icterus*
- Troy, Declan M., see Day, Robert H.
- Turdus iliacus*, 152
- merula*, 133, 151, 687, 958-959
- migratorius*, 176, 354, 958
- philomelos*, 133
- plumbeus*, 289
- Tympanuchus phasianellus*, 716
- Tyrannus dominicensis*, 289
- savana*, 40-43
- tyrannus*, 5, 356, 506
- verticalis*, 356
- Tyrant, Yellow-browed, see *Satrapa flaviventris*

## U

- Uraeginthus bengalus*, 552
- Urban, 734-738
- Uria aalge*, 816-823, 966
- lomvia*, 716, 966
- Uric acid, 257-258
- Utah, 716-717

## V

- Vander Wall, Stephen B., Foraging of Clark's Nutcrackers on rapidly changing pine seed resources, 621-631
- Vanderwerf, Eric A., Observations on the nesting of the Great Potoo (*Nyctibius grandis*) in central Venezuela, 948-950
- Venezuela, 948-950
- Verdin, see *Auriparus flaviceps*
- Vermivora celata*, 150
- luciae*, 119
- Verner, Jared, and Ritter, Lyman V., A comparison of transects and spot mapping in oak-pine woodlands of California, 401-419
- Verner, Jared, see Hejl, Sallie J.
- Versatility, 592-606
- Vestiaria coccinea*, 347
- Vidua chalybaeta*, 686
- Vigilance, 510-512
- Vireo, Black-capped, see *Vireo atricapillus*
- Black-whiskered, see *Vireo altiloquus*
- Red-eyed, see *Vireo olivaceus*
- Vireo altiloquus*, 289
- atricapillus*, 359-372
- bellii*, 430
- carmioli*, 428-445

- chivi*, 428-445
- flavifrons*, 428-445
- flavoviridis*, 428-445
- gilvus*, 428-445
- huttonii*, 428-445
- leucophrys*, 428-445
- olivaceus*, 430, 588-591
- philadelphicus*, 430
- solitarius*, 428-445
- vicinior*, 430
- Vireolanius leucotis*, 430
- Vireonidae, 428-445
- Vocalization, 304-310, 607-612, 632-636
- Volcanism, 251-253
- Vulture, Black, see *Coragyps atratus*
- Greater Yellow-headed, see *Cathartes melambrotus*
- Turkey, see *Cathartes aura*

## W

- Wagner, Richard H., see Safina, Carl
- Waite, Thomas A., A field test of density-dependent survival of simulated Gray Jay caches, 247-249
- Waite, Thomas A., and Grubb, Thomas C., Jr., Copying of foraging locations in mixed-species flocks of temperate-deciduous woodland birds: An experimental study, 132-140
- Wanless, S., Harris, M. P., and Morris, J. A., The effect of radio transmitters on the behavior of Common Murres and Razorbills during chick rearing, 816-823
- Warbler, Blackpoll, see *Dendroica striata*
- Cape May, see *Dendroica tigrina*
- Golden-crowned, see *Basileuterus culicivorus*
- Great Reed, see *Acrocephalus arundinaceus*
- Kentucky, see *Oporornis formosus*
- Lucy's, see *Vermivora luciae*
- Marsh, see *Acrocephalus palustris*
- Orange-crowned, see *Vermivora celata*
- Palm, see *Dendroica palmarum*
- Prairie, see *Dendroica discolor*
- Prothonotary, see *Protonotaria citrea*
- Reed, see *Acrocephalus scirpaceus*
- Sedge, see *Acrocephalus schoenobaenus*
- Willow, see *Phylloscopus trochilus*
- Wilson's, see *Wilsonia pusilla*
- Yellow, see *Dendroica petechia*
- Yellow-rumped, see *Dendroica coronata*
- Warkentin, Ian G., and James, Paul C., Nest-site selection by urban Merlins, 734-738
- Washington, 304-310
- Waterthrush, Northern, see *Seiurus noveboracensis*
- Watts, Bryan D., Foraging implications of food usage patterns in Yellow-crowned Night-Herons, 860-865
- Waxwing, Cedar, see *Bombycilla cedrorum*
- Weather and migration, 261-263
- Weaver, Village, see *Ploceus cucullatus*
- Webb, D. R., and Rogers, Christopher M., Nocturnal energy expenditure of Dark-eyed Juncos roosting in Indiana during winter, 107-112
- Weddell seal, 249-250
- Weimerskirch, Henri, Bartle, John Alexander, Jouventin, Pierre, and Stahl, Jean Claude, Foraging

- ranges and partitioning of feeding zones in three species of southern albatrosses, 214-219  
 Weitzel, Norman H., Nest-site competition between the European Starling and native breeding birds in northwestern Nevada, 515-517  
 Whimbrel, see *Numenius phaeopus*  
 White, Clayton M., see Rensel, Jack A.  
 White-eye, Japanese, see *Zosterops japonicus*  
 White fir, 561-574  
 Wiley, James W., Host selection by the Shiny Cowbird, 289-303  
 Wilkie, Patricia J., see Corbin, Kendall W.  
 Willet, see *Catoptrophorus semipalmatus*  
 Williams, Joseph B., and Swift, Kendra, Oxygen consumption and growth of Northern Bobwhite embryos under normoxic and hyperoxic conditions, 187-192  
 Willson, Mary F., see Malmberg, Patti Katusic  
*Wilsonia pusilla*, 362  
 Wind, 58-60  
 Winter, 15-19, 107-112, 669-680  
 Winter ecology, 866-874  
     flock stability, 482-484  
     movements, 261-263  
     territoriality, 359-372  
 Wintering ecology, 263-266  
 Woodcock, American, see *Scolopax minor*  
 Woodcreeper, Spot-crowned, see *Lepidocolaptes affinis*  
 Woodpecker, Acorn, see *Melanerpes formicivorus*  
     Gila, see *Melanerpes uropygialis*  
     Hairy, see *Picoides villosus*  
     Lewis's, see *Melanerpes lewis*  
     Pileated, see *Dryocopus pileatus*  
     Red-bellied, see *Melanerpes carolinus*  
     Red-headed, see *Melanerpes erythrocephalus*  
     White-headed, see *Picoides albolarvatus*  
 Wood-Pewee, Eastern, see *Contopus virens*  
 Wren, Bewick's, see *Thyromanes bewickii*  
     Cactus, see *Campylorhynchus brunneicapillus*  
     Carolina, see *Thryothorus ludovicianus*  
     Clarion, see *Troglodytes tanneri*  
     House, see *Troglodytes aedon*  
     Sedge, see *Cistothorus platensis*  
     Winter, see *Troglodytes troglodytes*  
 Wrubleski, Dale A., see Tome, Michael W.  
 Wyoming, 689-696
- X
- Xanthocephalus xanthocephalus*, 325, 349-358, 426, 651
- Y
- Yellowlegs, Lesser, see *Tringa flavipes*  
 Yellowthroat, Common, see *Geothlypis trichas*  
 Yolk sac, 718-721  
 Yukon-Kuskokwim Delta, 782-790
- Z
- Zembal, Richard, and Fancher, Jack M., Foraging behavior and foods of the Light-footed Clapper Rail, 959-962  
*Zenaida auriculata*, 505-507  
     *galapagoensis*, 506  
     *macroura*, 292, 363, 480, 504, 512-513, 515, 931, 943  
 Zink, Robert M., Evolution of Brown Towhees: Allozymes, morphometrics and species limits, 72-82  
 Zink, Robert M., see Johnson, Ned K.  
 Zink, Robert M., see McKittrick, Mary C.  
*Zonotrichia albicollis*, 48, 267  
     *capensis*, 42  
     *leucophrys*, 110, 151, 263, 486-489, 558, 637-647, 939  
*Zosterops japonicus*, 339-348  
 Zuni Mountains, 653-661

